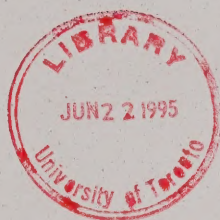


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ANNUAL REPORT of the ADVISORY COMMITTEE ON ENVIRONMENTAL STANDARDS

JULY 1993 TO JULY 1994

ACES

Advisory
Committee
on Environmental
Standards

Comité
consultatif
sur les normes
environnementales



AWT 7729

**ANNUAL REPORT
of the
ADVISORY COMMITTEE on
ENVIRONMENTAL STANDARDS**

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**ACES Report 94-03
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Ontario Ministry of the Environment and Energy

Mailing Address:

Advisory Committee on Environmental Standards (ACES)

40 St. Clair Ave. West

Suite 401

Toronto, Ontario

M4V 1M2

Phone:

(416) 314-9265 (Call collect if outside of Toronto)

Fax:

(416) 314-9270

Location:

(Walk-in inquiries and access to library containing material related to ACES activities)

Advisory Committee on Environmental Standards

40 St. Clair Ave. West

Suite 401

Toronto, Ontario

M4V 1M2

FOREWORD

This year presented many challenges for the Advisory Committee on Environmental Standards (ACES). We reconfirmed our mandate by signing a new Memorandum of Understanding with a new Minister and a new Deputy Minister. We received eight referrals, three of which resulted in full public consultations. Two of these consultations, one on a standard for Tritium in drinking water and the other on the Proposed Clean-up Guidelines for Contaminated Sites in Ontario attracted an unprecedented amount of attention and public comment. In all of our consultations, we were impressed by the well informed and creative nature of the public comment we received, which contributed new and relevant information to our analysis. Our task was also aided by a positive and productive relationship with the management and staff of the Environmental Sciences and Standards Division of the Ontario Ministry of the Environment and Energy.

ACES's motto, "Setting a standard for environmental protection" has never seemed more appropriate than when it is applied to our report A Standard for Tritium. This groundbreaking report establishes a benchmark for regulation of radionuclides as environmental contaminants which will be referred to in Ontario and other jurisdictions for years to come. Similarly, ACES strongly encouraged the MOEE to pursue an innovative multimedia approach in deriving a standard for Lead. This approach resulted in an award-winning piece of work by Standards Development Branch staff.


I wish to thank the members of the Advisory Committee on Environmental Standards for their continuing commitment and hard work. The workload imposed upon committee members, most of whom have fulltime jobs in addition to their ACES involvement, has been very demanding. In spite of this heavy workload, we were pleased to be able to issue our reports to the Minister in a timely manner. We would not have been able to do so without the help of our excellent staff. Dianne Corrigan, Scientific and Technical Coordinator, Carol Bennett, ACES Technical Advisor, Kathy Paidock, our Administrative Assistant and Carole Brown, the Advisory Committees' receptionist and computer wizard, all contributed to the smooth day to day operation of the ACES office and played key roles in the committee's reviews, consultations and production of reports.

Mark T. Goldberg PhD DABT
Chair

Advisory Committee on Environmental Standards

Table of Contents

1.	Overview of ACES	
1.1	Introduction	1
1.2	Mandate	1
1.3	Responsibilities	1
1.4	Membership and Organizational Structure	3
2.	ACES Activities (July 1993 to July 1994)	
2.1	Overview	7
2.2	Full Committee	7
2.3	Procedural/Public Consultation Subcommittee	10
2.4	Environmental Bill of Rights Work Group	10
2.5	Tritium Work Group	10
2.6	Lead Work Group	11
2.7	Thallium Work Group	13
2.8	Ethylbenzene and Toluene Work Group	13
2.9	Arsenic Work Group	15
2.10	Site Assessment and Clean-up Work Group	15
3.	Future Activities	16
4.	ACES Publications	17
List of Figures and Tables		
Figure 1.	The Public Consultation Process	2
Figure 2.	Committee Organizational Structure	5
Table 1.	ACES Membership	4
Table 2.	Subcommittee/Work Group Membership	6
Table 3.	Documents Submitted to ACES	8
Table 4.	Current, Proposed and Recommended Multimedia Standards and Guidelines for Lead	14
Appendix A	Memorandum of Understanding	18
Appendix B	Biographical Notes for ACES Members	26
Appendix C	Correspondence	30



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1. Overview of ACES

1.1 Introduction

The Advisory Committee on Environmental Standards (ACES) was established in May, 1990 to advise the Minister of the Environment and Energy (MOEE) on sound, practical environmental standards that have been developed through the consideration of pertinent scientific, legal, economic and socio-cultural issues and through the open process of public consultation.

1.2 Mandate

The mandate of ACES is derived from Order in Council 113/90 and is further defined in the Memorandum of Understanding (Appendix A, page 18). In addition to providing recommendations on proposed environmental standards, ACES advises the Minister on the following areas:

- policies, principles and procedures to be used in the development of environmental standards;
- priorities for research and data gathering related to the development of environmental standards;
- priority substances for standard setting.

1.3 Responsibilities

In order to fulfil its mandate ACES:

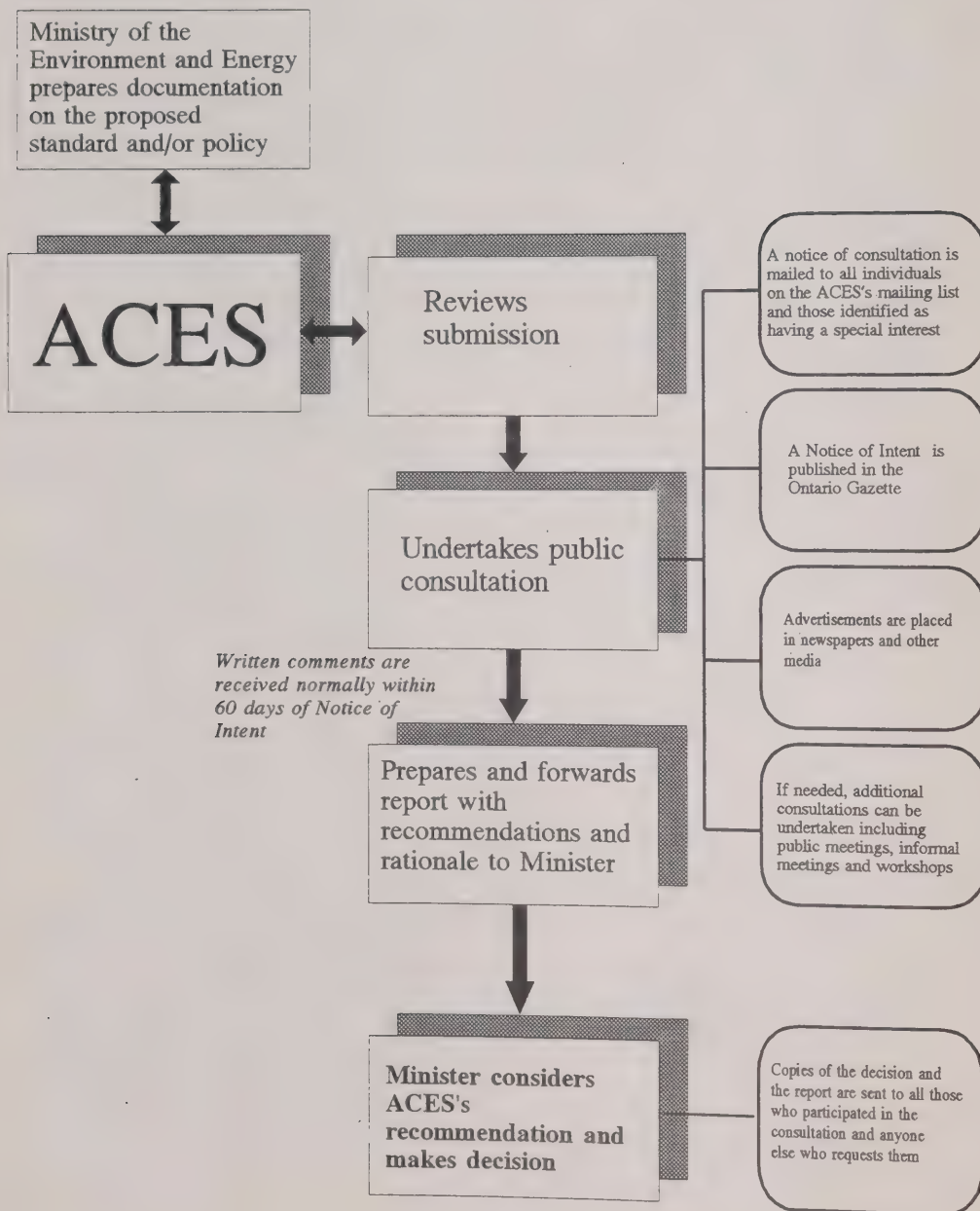
- evaluates the scope, assumptions, interpretations and methodologies used in the development of a proposed environmental standard or policy;
- may consult with the public;
- if necessary, undertakes further consultation with the public and/or Ministry and other experts to clarify issues;
- forwards its findings and recommendations together with supporting rationale and any other pertinent information to the Minister of the Environment and Energy;
- provides feedback to the public about its recommendations and how public input was considered.

Figure 1 outlines the role of ACES in the public consultation process.

ACES undertakes three main activities in carrying out its mandate:

- formal reviews of standards and policies, originating from a referral from the Minister which may or may not involve public consultation;

Figure 1. The Public Consultation Process



- informal reviews, originating from a request from Ministry staff which do not involve public consultation; and
- policy advice on issues related to standards setting which the committee feels should be brought to the attention of the Minister.

Figure 2 illustrates ACES's current organizational structure. The membership of the subcommittees and work groups is listed in Table 2.

1.4 Membership and Organizational Structure

ACES is composed of 13 members, appointed by the Minister, with a broad range of experience and expertise in the areas of science, law, labour and economics. A list of ACES members is provided in Table 1. Biographical notes for current ACES members appear in Appendix B. Members are appointed for a maximum three year term by virtue of their experience and expertise and do not represent any stakeholder groups. ACES operates as an independent advisory body at "arms-length" from the Ministry and, as such, serves as a first level of review for Ministry standards setting and related policies.

Work groups, composed of members with a range of expertise, are established to deal with specific contaminants or issues as the need arises. When a task is completed, the work group is dissolved.

Subcommittees are standing committees that deal with matters of an ongoing nature. The Procedural/Public Consultation Subcommittee is a standing committee which helps to design and evaluate each public consultation and deals with various procedural matters.

TABLE 1. ACES Membership

Mark Goldberg
Chair of ACES
GlobalTox International
Consultants Inc.
Guelph &
Toxicology
University of Guelph

Beth Savan
Vice Chair of ACES
Environmental Research and
Education
University of Toronto
Toronto

Robert Boldt
Occupational Health and
Environment
Sarnia

Ian Brindle
Analytical Chemistry
Brock University
St. Catharines

Terry Burrell
Environmental Economics and
Law
Toronto

Doug Cook
Occupational Health and
Environment
Taurscale Consultants Ltd.
Bridgenorth

Cindy O'Brien
Occupational Hygienist
City of Toronto
Toronto

Sally Paterson
Environmental Chemodynamics
University of Toronto
Toronto

David Pengelly
Air Pollution Epidemiology
McMaster University
Hamilton

Kim Perrotta
Occupational Hygienist
Toronto

Catherina Spoel
Environmental Law
Miller Thomson
Toronto

Ralph Stanley
Public Health Protection
Peel Regional Health
Department
Brampton

Keith Winterhalder
Plant and Soil Ecology
Laurentian University
Sudbury

ACES Office Staff

Carol Bennett
(August 1993 to December
1994)
Technical Advisor

Carole Brown
Receptionist

Dianne Corrigan
(June 1993 to December 1994)
Scientific and Technical
Coordinator (Acting)

Eva Kennedy
(until May 1993)
Scientific and Technical
Coordinator

Kathy Paidock
Administrative Assistant

ACES Members Prior to July 1993

Helen Henrikson
(until May 1993)
Physiology and Environmental
Planning
Kingston

Mary Morison
(until February 1993)
Occupational Health and Safety
Ontario Federation of Labour
Toronto

Peter Victor
(until November 1991)
Environmental Economics
Toronto

Figure 2. Current Committee Organizational Structure

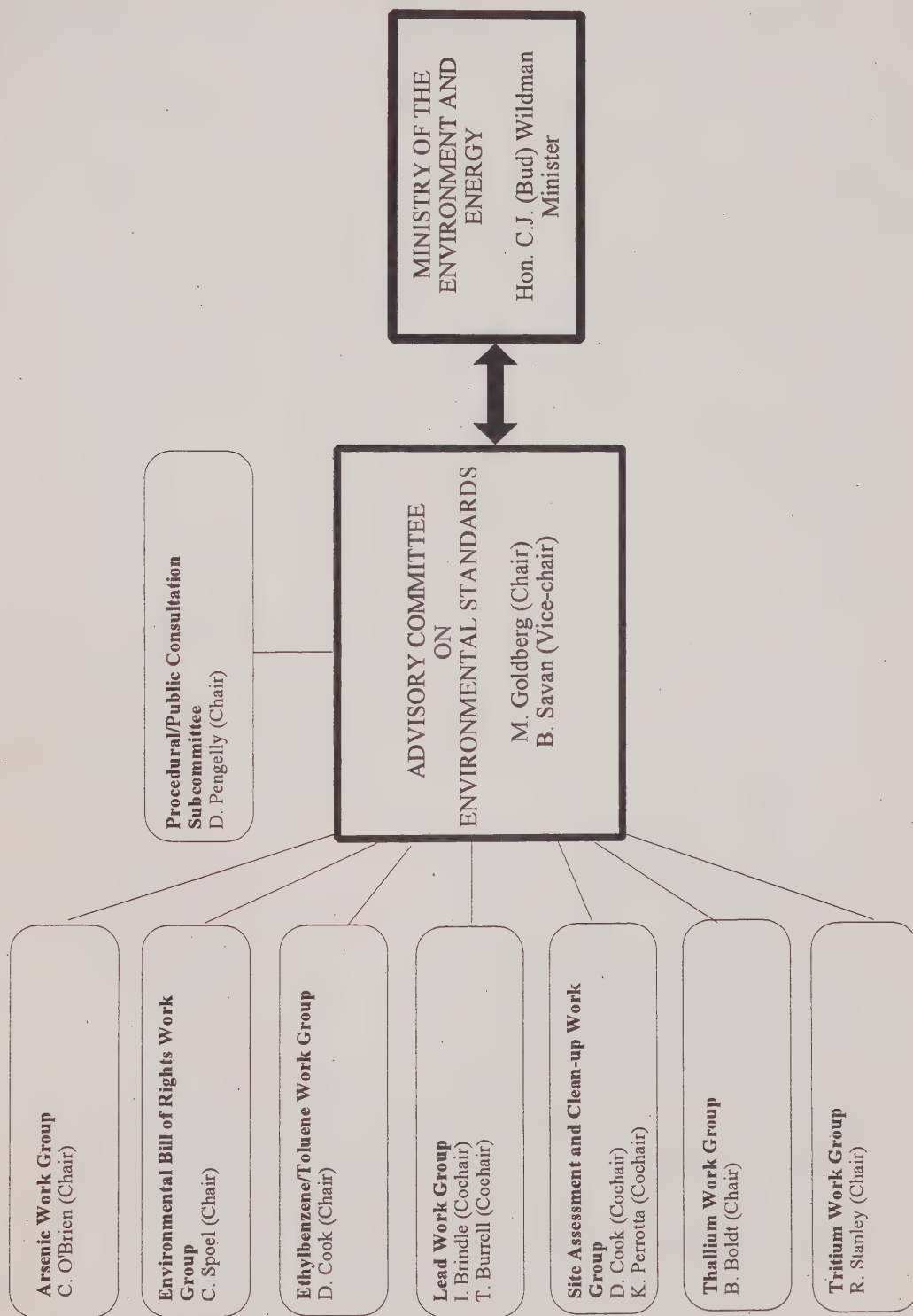


TABLE 2. Subcommittee/Work Group Membership

Work Groups/Subcommittees Active July 1993 to July 1994

Arsenic Work Group

C. O'Brien (Chair)
I. Brindle
S. Paterson
D. Pengelly

Environmental Bill of Rights Work Group

C. Spoel (Chair)
T. Burrell
B. Savan

Ethylbenzene/Toluene Work Group

D. Cook (Chair)
S. Paterson
D. Pengelly
C. Spoel

Lead Work Group

I. Brindle (Cochair)
T. Burrell (Cochair)
D. Cook
M. Goldberg
H. Henrikson (until May 1993)
K. Perrotta
S. Paterson
B. Savan
R. Stanley

Procedural/Public Consultation Subcommittee

D. Pengelly (Chair)
R. Boldt
H. Henrikson (until May 1993)
C. O'Brien
B. Savan
C. Spoel

Site Assessment and Clean-up Work Group

D. Cook (Cochair)
K. Perrotta (Cochair)
B. Boldt
T. Burrell
C. Spoel
K. Winterhalder
M. Goldberg (resource person)

Thallium Work Group

B. Boldt (Chair)
C. O'Brien
K. Perrotta
K. Winterhalder

Tritium Work Group

R. Stanley (Chair)
D. Cook (until December 1993)
M. Goldberg
H. Henrikson (until May 1993)
C. O'Brien
S. Paterson
B. Savan

Work Groups Active Prior to July 1993

Air Standards Work Group

D. Pengelly (Chair)
R. Boldt
T. Burrell
D. Cook
B. Savan
C. Spoel

Benzene Work Group

D. Cook (Chair)
I. Brindle
M. Goldberg
S. Paterson
R. Stanley
K. Winterhalder

Chlorinated Ethanes & Ethylenes Work Group

B. Boldt (Chair)
I. Brindle
D. Cook
B. Savan
C. Spoel

Materials Handling Policy Work Group

M. Morison (Chair until February 1993)
R. Stanley (Chair from February 1993)
H. Henrikson (Vice-chair until May 1993)
I. Brindle
T. Burrell
M. Goldberg
S. Paterson
D. Pengelly
C. Spoel
K. Winterhalder

NDMA Work Group

P. Victor (Chair until November 1991)
M. Goldberg (Chair from November 1991)
I. Brindle
S. Paterson
R. Stanley
K. Winterhalder

Provincial Water Quality Guidelines/Objectives Work Group

D. Cook (Chair)
I. Brindle
M. Goldberg
S. Paterson
R. Stanley
K. Winterhalder

Safe Drinking Water Act Work Group

I. Brindle (Chair)
M. Goldberg
S. Paterson
D. Pengelly
R. Stanley

Sediment and Lakefill Quality Guidelines Work Group

K. Winterhalder (Chair)
I. Brindle
D. Pengelly
C. Spoel
R. Stanley

Trihalomethanes Work Group

C. Spoel (Chair)
R. Boldt
I. Brindle
D. Cook
B. Savan
R. Stanley

2. ACES Activities (July 1993 - July 1994)

2.1 Overview

A summary of documents which have been referred to ACES for review is presented in Table 3. This section of the report provides brief descriptions of full committee, subcommittee and work group activities.

The full committee held 14 meetings, on a monthly basis, during the past year. There were a total of 52 meetings of the subcommittee and work groups.

2.2 Full Committee

The Ministry of Environment and Energy was reorganized along more functional lines in November 1993 and ACES was pleased to see that its advice regarding the consolidation of standard setting in the Standards Development Branch was implemented. This change will enhance the setting of multi-media standards.

ACES continues to monitor public response to its recommendation of an Interim Ontario Drinking Water Objective for tritium. The Minister is expected to make a decision on ACES's recommendation in the near future.

Highlights of deliberations of the full committee are listed below:

- a Policy, Procedures and Guidelines Manual was developed which provides an administrative guide to Committee activities.
- due to the arrival of a new Minister, Bud Wildman, and a new Deputy, Richard Dicerni, the Memorandum of Understanding, which sets out the relationship between ACES, the Minister and the Ministry was reviewed and signed again.
- regular meetings are held on a quarterly basis between the Chair and Vice Chair of ACES and the Director and Assistant Director of the Standards Development Branch to keep ACES apprised of the timing of documents for future consultations and to ensure that appropriate material is available for public distribution.
- presentations were made by:
 - Ivy Wile and Wolfgang Scheider about the Standards Development Steering Committee.
 - Ellen Schwartzell from Pollution Probe outlined Probe's concerns about air issues.
 - Norm Huebel, Ontario Regional Manager of the Canadian Chemical Producers' Association and Walter Frai from Polysar spoke about the CCPA's *Responsible Care*® program.
 - Liora Salter, Professor at Osgoode Hall Law School/Faculty of Environmental Studies, York University discussed the present

TABLE 3. Documents Sent to ACES

Title of Document (Originating Branch)	Type of Referral	Date(s) Received	Public Consultation (Start/End Date)	Date Comments Returned	Current Status
Provincial Water Quality Guideline for Benzene (Water Resources Branch)	Formal	June 14, 1990	None	September, 1990	Awaiting revised draft
Ontario Water Quality Objective Development Process (Water Resources Branch)	Informal	May 24, 1991	None	May 29, 1991	Awaiting decisions on ACES's recommendations, document released.
Interim Maximum Acceptable Concentration for NDMA (N-Nitrosodimethylamine) in Drinking Water	Formal	August 9, 1991	September 28, 1991 to November 27, 1991	January 21, 1992	Minister accepted ACES's recommendations
Documents pertaining to the development of a Safe Drinking Water Act (Water Resources Branch)	Formal	September 18, 1991	None	November 5, 1991	Awaiting Minister's decisions on ACES's recommendations
Scientific Criteria Document for Development of Provincial Water Quality Guidelines for Chlorinated Ethanes and Chlorinated Ethylenes (Water Resources Branch)	Informal	June 19, 1991 June 16, 1992 December 3, 1992	None	September, 1991 June 23, 1992 February 18, 1993	Awaiting revised draft
Fill Quality Guidelines for Lakefilling in Ontario. Application of Sediment and Water Quality Guidelines in Lakefilling (Water Resources Branch)	Formal	June 4, 1992	September 9, 1992 to January 29, 1993	April 30, 1993	ACES's recommendations under consideration by Minister
Proposed Policy for Management of Excess Soil, Rock and Like Material (Materials Management Policy Committee)	Formal	July 14, 1992	September 9, 1992 to January 29, 1993	April 30, 1993	ACES's recommendations under consideration by Minister
Impacts of a Revised Trihalomethane Objective in Ontario and Consultation Package (Hazardous Contaminants Branch/ Water Resources Branch)	Informal	July 28, 1992	None	September 23, 1992	Awaiting revised draft
Air Quality Standards (Air Resources Branch)	Informal	December 24, 1992 March 9, 1993	None	March 25, 1993	Awaiting documents

Title of Document (Originating Branch) (continued)	Type of Referral (continued)	Date(s) Received (continued)	Public Consultation (Start/End Date) (continued)	Date Comments Returned (continued)	Current Status (continued)
Scientific Criteria Document for the Development of a Provincial Water Quality Guideline for Toluene and the Scientific Criteria Document for the Development of a Provincial Water Quality Guideline for Ethylbenzene (Water Resources Branch)	Informal	October 13, 1993	None	December 22, 1993	Documents revised and will be placed on Environmental Bill of Rights Registry in August 1994
Rationale Document for the Development of an Interim Ontario Drinking Water Objective for Tritium (Standards Development Branch)	Formal	December 15, 1993	January 10, 1994 to March 10, 1994	May 10, 1994	ACES's recommendations under consideration by Minister
Provincial Water Quality Guidelines for Alkylleads (Water Resources Branch)	Informal	June 17, 1993	None	August 19, 1993	Document revised
Rationale for the Development of Soil, Drinking Water and Air Quality Criteria for Lead and Scientific Criteria document for Multimedia Environmental Standards Development: Lead	Formal	December 3, 1993	January 10, 1994 to April 11, 1994	June 17, 1994	Minister accepted majority of ACES's recommendations
Provincial Water Quality Guideline for Thallium (Water Resources Branch)	Informal	October 1, 1993	None	December 23, 1993	ACES's recommendations under consideration
Assessment of the Toxicology, Human Exposure and Health Risks of Inorganic Arsenic, Terrestrial Effects Assessment of Arsenic and its Compounds and Scientific Criteria Document for the Development of a Provincial Water Quality Objective for Arsenic	Informal	May 10, 1994	None	July 7, 1994	ACES's recommendations under consideration
Proposed Guidelines for the Clean-up of Contaminated Sites in Ontario	Formal	May 16, 1994	Public consultation began July 11, 1994		

direction of standard setting, risk assessment and public involvement.

- Ivy Wile, Ron Pearson and Bill Bardswick spoke about MOEE's proposed Site Assessment and Clean-up Guidelines.
- Dianne Saxe, environmental lawyer and author of the book, *A Buyer's Guide to Contaminated Land*, presented a legal perspective on the existing decommissioning guidelines and the new proposed new Site Assessment and Clean-up Guidelines.

2.3 Procedural and Public Consultation Subcommittee

A decision was made to merge the Procedural and Public Consultation Subcommittees in order to streamline the process and increase efficiencies.

The Procedural and Public Consultation Subcommittee continued to develop operating principles for the full committee, subcommittees and work groups. These are now documented in the ACES Policy, Procedures and Guidelines Manual.

Other activities included the development of consultation plans for Tritium, Lead and Site Assessment and Clean-up Guidelines. The subcommittee also assisted in the development of computer applications for tracking standards and implementation of electronic mail so that members could communicate from remote locations.

The Subcommittee prepared

recommendations on methods of evaluating the effectiveness of public consultation activities.

In addition to the existing brochures entitled *What is ACES?* and *Public Consultation and ACES*, two brochures entitled *Glossary of Terms* and *The Multimedia Approach* were finalized to assist members of the public in understanding Ministry documents and participating in the consultation process.

2.4 Environmental Bill of Rights Work Group

This work group has been continuing its analysis of the Environmental Bill of Rights and the implications for ACES. Suggestions were made on the development of criteria for determining whether proposed changes in standards should be subjected to ACES review and/or notification through the Environmental Bill of Rights Registry. (Appendix C page 31).

2.5 Tritium Work Group

Referral

On December 15, 1993, the Minister of the Environment and Energy, C.J. (Bud) Wildman, requested that ACES undertake a review and public consultation of the proposed Interim Drinking Water Objective for Tritium. (Appendix C page 34). The proposed interim objective was contained in the document *Rationale Document for the Development of an Interim Ontario Drinking Water Objective for Tritium* (MOEE 1993).

General Description

On September 30, 1992, the then Minister of the Environment, Ruth Grier, announced that an individual environmental assessment of the proposed water supply plant in Ajax/Pickering would not be required, subject to a set of conditions. One of these conditions was that ACES would conduct a public review of the current Provincial Drinking Water Objective for tritium. Public concern about tritium stemmed from the close proximity of the new water supply plant to the Pickering Nuclear Generating Station, which discharges tritium in waste water into the lake.

ACES consulted the public about the Ministry's proposed Interim Drinking Water Objective of 7,000 Bq/L which would replace the current Ontario Drinking Water Objective of 40,000 Bq/L.

Public Consultation

A consultation package of background material was prepared and mailed to 6,600 individuals and groups between January 10-14, 1993. Advertisements were placed in 20 Ontario newspapers, in the *Ontario Gazette* and on the Web network. A public information session was held on January 27, 1994 in Ajax. A deputation session was held in Pickering on February 16, 1994 where seven presenters made oral submissions and a second deputation session was held via teleconference on February 28, 1994 at which four presenters made oral submissions. A total of 226 requests for additional information were received. ACES received 84 written responses and 11 oral deputations on various aspects of the proposed Ontario Drinking Water Objective.

Public interest in this issue was widespread and resulted in new information being

brought to the attention of ACES. All comments were carefully reviewed and considered and meetings were held with Ministry staff to clarify assumptions in the report.

ACES Recommendation

On May 10, 1994 ACES submitted its recommendations to the Minister in a report entitled *A Standard for Tritium*.

ACES recommended that the Ontario Drinking Water Objective be set immediately at 100 Bq/L. ACES further recommended that, due to the fact that tritium is a human carcinogen and because of the many uncertainties in the risk assessment, the tolerable level of tritium in drinking water be reduced to 20 Bq/L in 5 years with the goal of further reduction as human contributions to tritium background levels decline. In addition, ACES recommended that the standard be applied as a Maximum Acceptable Concentration so that when the standard is exceeded an alternative water supply is made available.

Outcome

Currently the Minister is considering ACES's recommendations.

2.6 Lead Work Group

a) Provincial Water Quality Guidelines for Alkylleads

Referral

On June 22, 1993, a request was received from Water Resources Branch for an informal review of *Scientific Criteria Document for the Derivation of Water Quality Guidelines: Alkylleads* (Appendix C page 36).

General Description

Alkylleads have been used in Canada as an

additive in gasoline and have been detected in water, sediments, and biota from many Ontario lakes and streams. This document outlines the rationale for setting Provincial Water Quality Guidelines for tetraethyllead, triethyllead and tetramethyllead.

ACES Review

ACES continues to have concerns about the process for setting Provincial Water Quality Objectives/Guidelines and suggested that the whole process should be the subject to a public review. ACES suggested that components missing in the documentation included an evaluation of the technical feasibility of achieving the proposed level, socio-economic analysis and a consideration of multi-media effects. ACES had a number of specific comments on the document and recommended that it be released for public review in conjunction with the multi-media environmental standards for lead documents.

Outcome

The document was revised and published in June 1994.

b) Multi-media Environmental Standards for Lead

Referral

On December 3, 1993, the Minister of the Environment and Energy, C.J. (Bud) Wildman, requested that ACES undertake a review and public consultation of the proposed multimedia standards and guidelines for lead. (Appendix C page 38). The proposed standards and guidelines were contained in the document, *Rationale for the Development of Soil, Drinking Water, and Air Quality Criteria for Lead* (MOEE 1993) and supported by a second document, *Scientific Criteria Document for Multimedia Environmental Standards Development: Lead* (MOEE 1994).

General Description

The proposed changes to the standards were developed as a result of concerns arising from recent studies of health effects which suggest that adverse effects can occur at levels previously considered safe. Further, the presence of lead in food, soil, water and air have necessitated an assessment of the multiple paths of exposure to lead.

A target level of lead in blood of 10 micrograms per decilitre, a level at which learning deficits have been documented, was selected by the MOEE. An Intake of Concern for the population of 1.85 micrograms of lead per kilogram of body weight per day was selected as being protective of the most sensitive population of infants between the ages of 6 months and 4 years. This amount was then partitioned among soil, water and air with 0.44 micrograms of lead per kilogram of body weight per day being allocated to food, which is not regulated by MOEE.

Public Consultation

A consultation package of background material was prepared and mailed to 6,600 individuals and groups between January 10-14, 1993. Advertisements were placed in 19 Ontario newspapers, in the *Ontario Gazette* and on the Web network.

A total of seven oral presentations were made and 115 written submissions were received. There were 750 requests for additional information.

ACES Recommendation

On June 17, 1994 ACES submitted its recommendations to the Minister in a report entitled *Soil, Drinking Water and Air Quality Criteria for Lead*. ACES agreed with MOEE's selection of the Intake of Concern in light of the most recent research

findings and the inherent uncertainties in available data. ACES recommendations on specific levels appear in Table 4. ACES also strongly endorsed the public education activities proposed by MOEE directed at reducing exposure to lead.

Outcome

The Minister accepted ACES's recommendations regarding specific levels and is considering the recommendations regarding further reductions of levels within specified time frames. (Appendix C page 41).

2.7 Thallium Work Group

Referral

On October 1, 1993 a request was received from G. Rees of the Water Resources Branch for an informal review of the *Provincial Water Quality Guideline for Thallium*. (Appendix C page 43)

General Description

Thallium is a naturally occurring element, rarely present in large ore deposits. It has been used in manufacture of alloys, production of electrodes, production of low melting glass and extensively in the past in insecticides and rodenticides. Thallium is highly toxic to plants and animals.

ACES Recommendations

ACES continues to have concerns about the process for setting Provincial Water Quality Objectives/Guidelines and suggested that the whole process should be subjected to a public review. ACES suggested that components missing in the documentation included an evaluation of the technical feasibility of achieving the proposed level, socio-economic analysis and a consideration of multi-media effects. A suggestion was

made to broaden the list of peer reviewers. ACES also provided specific comments on the documents.

Outcome

ACES comments were sent to W. Scheider of the Standards Development Branch on December 23, 1993.

2.8 Ethylbenzene and Toluene Work Group

Referral

On October 13, 1993, a request was received from Water Resources Branch to provide an informal review of the *Scientific Criteria Document for the Development of a Provincial Water Quality Guideline for Toluene* and the *Scientific Criteria Document for the Development of a Provincial Water Quality Guideline for Ethylbenzene*. (Appendix C page 44)

General Description

Toluene occurs naturally in crude oil. Major uses in Canada include solvent in consumer products, lacquers, resin solutions, lacquer thinners, pesticides and the manufacture of benzene and benzoic acid/phenol. Ethylbenzene occurs naturally in coal tar and petroleum and is found in paints, inks, insecticides and gasoline.

The U.S. EPA has given both toluene and ethylbenzene "D" cancer ratings (not classifiable as to human carcinogenicity because of lack of animal and human studies).

ACES Recommendation

ACES continues to have concerns about the process for setting Provincial Water Quality Objectives/Guidelines and suggested that the whole process should be subjected to a

TABLE 4. Current, Proposed and Recommended Multimedia Standards and Guidelines for Lead

Type of Standard/Guideline	MOEE Current	MOEE Proposed	ACES's Recommended
Soil Clean-up Guideline - Residential/Parkland - Industrial/Commercial - Agricultural	500 ppm 1000 ppm 500 ppm	200 ppm 1000 ppm 60 ppm	200 ppm 1000 ppm 200 ppm (interim)
Ontario Drinking Water Objective	10 ppb	10 ppb	10 ppb (with a goal of 5 ppb)
Air-Ambient Air Quality Criteria (Reg. 337) - 30 day Ambient Air Quality Criterion (arithmetic mean) - 24 hour Ambient Air Quality Criterion	3 $\mu\text{g}/\text{m}^3$ 5 $\mu\text{g}/\text{m}^3$	0.7 $\mu\text{g}/\text{m}^3$ 2 $\mu\text{g}/\text{m}^3$	0.7 $\mu\text{g}/\text{m}^3$ (interim with a goal of 0.05 $\mu\text{g}/\text{m}^3$) N/A
Air-Point of Impingement Standard (Reg 346) - 0.5 hour Point of Impingement	10 $\mu\text{g}/\text{m}^3$	6 $\mu\text{g}/\text{m}^3$	N/A

N/A - standard not recommended but can be derived from the recommended 30 day AAQC

Source: ACES, 1994. Soil, Drinking Water and Air Quality Criteria for Lead: Recommendations to the Minister of the Environment and Energy. ACES Report 94-02. ISBN: 0-7778-3114-7. 130 pp.

public review. ACES suggested that components missing in the documentation included an evaluation of the technical feasibility of achieving the proposed level, socio-economic analysis and a consideration of multi-media effects given the volatile nature of the compounds. ACES also provided specific comments on the documents.

Outcome

The documents were revised and will be placed on the Environmental Bill of Rights Registry in August 1994.

2.9 Arsenic Work Group

Referral

On May 10, 1994, a request was received from Standards Development Branch for an informal review of three documents entitled *Assessment of the Toxicology, Human Exposure and Health Risks of Inorganic Arsenic, Terrestrial Effects Assessment of Arsenic and its Compounds* and *Scientific Criteria Document for the Development of a Provincial Water Quality Objective for Arsenic*. (Appendix C page 48)

General Description

There is chronic exposure to both organic and inorganic arsenic in the environment. There is sufficiently strong evidence of carcinogenicity of arsenic to warrant limiting exposure as much as possible. The ubiquitous nature of arsenic and the many routes of exposure make it a good candidate for multi-media assessment.

ACES Recommendation

In addition to specific comments on the documents ACES had general concerns about the lack of an integrated multimedia approach amongst the documents submitted

and the need for a clear risk assessment process in the Provincial Water Quality Objective document.

Outcome

ACES comments were sent to Ivy Wile of the Standards Development Branch on July 7, 1994. ACES is awaiting the revised documentation.

2.10 Site Assessment and Clean-up Work Group

Referral

On May 16, 1994, the Minister of the Environment and Energy, C.J. (Bud) Wildman, requested that ACES undertake a review and public consultation of the proposed Site Assessment and Clean-up Guidelines and the supporting rationale documents. (Appendix C page 50)

General Description

The documents describe an approach for assessing and cleaning up contaminated sites in Ontario. Generic clean-up criteria are presented with a provision for developing and using site specific criteria. Considerations for the application of the criteria include: the "sensitivity" of the site, the intended land use, level of ground water protection required and depth of clean-up.

ACES Review

Due to the urgency of providing the Minister with a recommendation, ACES agreed to concurrently review the documentation and consult with the public.

Outcome

Public consultation began on July 11, 1994.

3. Future Activities

As a requirement of the *Memorandum of Understanding*, the Ministry of Environment and Energy provides a list of standards and policies under development within the Ministry which may be referred to ACES for review. It is anticipated that the following documents will be reviewed by ACES in the near future:

- Multi-media Environmental Standard for Arsenic.
- Air Quality Standard for Total Reduced Sulphur.
- Air Quality Standard for 1,3-Butadiene.
- Multi-media Environmental Standard for Dioxins and Furans.
- Scientific Criteria Document for Polycyclic Aromatic Hydrocarbons (PAHs).

ACES will participate in a workshop with MOEE to discuss various issues around the process of standard setting.

The Minister has released ACES reports containing recommendations on the Materials Management Policy and Lakefilling Guidelines but has not yet made a decision on the recommendations.

The Minister has released *A Standard for Tritium*, even though he has not yet made a decision on the recommendations.

The Minister has accepted most of ACES's recommendation in *Soil, Drinking Water, and Air Quality Criteria for Lead* and the report is now available. The Minister is still considering recommendations dealing with further reductions in a specified time frame.

Members of the public are encouraged to contact the ACES office and add their names to the ACES mailing list for future consultations.

4. ACES Publications

REPORTS

- ACES, 1992. A Standard for N-nitrosodimethylamine (NDMA): A Recommendation to the Minister of the Environment. ACES Report 92-01. ISBN: 0-7729-9367-X. 17 pp.
- ACES, 1992. Annual Report of the Advisory Committee on Environmental Standards. June, 1990 to May, 1992. ACES Report 92-08. ISSN: 1192-3172. 71 pp.
- ACES, 1993. Fill Quality Guidelines for Lakefilling in Ontario: Application of Sediment and Water Quality Guidelines to Lakefilling. 13 pp. (Under consideration)
- ACES, 1993. Proposed Policy for Management of Excess Soil, Rock and Like Materials. Recommendations to the Minister of Environment and Energy. 35 pp. (Under consideration)
- ACES, 1993. Annual Report of the Advisory Committee on Environmental Standards. June, 1992 to June, 1993. ACES Report 93-01. ISSN: 1192-3172 55 pp.
- ACES, 1994. A Standard for Tritium: A Recommendation to the Minister of the Environment and Energy. ACES Report 94-01. ISBN: 0-7778-2979-7 102 pp. (Under consideration).
- ACES, 1994. Soil, Drinking Water and Air Quality Criteria for Lead: Recommendations to the Minister of the Environment and Energy. ACES Report 94-02. ISBN: 0-7778-3114-7. 130 pp. (Under consideration).

BROCHURES

- Brochure #1. What is ACES? (English/French)*
- Brochure #2. Public Consultation and ACES. (English/French)*
- Brochure #3. Glossary of Terms. (English/French)*
- Brochure #4. The Multi-media Approach. (English/French)*

WORKING DOCUMENTS

1993. Overview of the Federal Standard Setting Process in the United States, Europe, The World Health Organization and Japan. 168 pp. ACES Working Document.

APPENDIX A

MEMORANDUM OF UNDERSTANDING

BETWEEN:

The Advisory Committee on Environmental Standards
(the "Committee")

- AND -

The Ministry of Environment and Energy
(the "Ministry")

1. Definitions

In this Agreement the term **standard** includes standards, objectives, guidelines and other form of limitations which specify an acceptable level for environmental contaminants.

2. Introduction

- (1) The purposes of this Memorandum of Understanding are:
 - (a) to describe the roles of the Committee, the Minister and the Ministry with respect to the Committee; and
 - (b) to clarify the operating arrangements between the Committee and the Ministry consistent with the terms of any applicable legislation.
- (2) In the event of any conflict between the provisions of this Memorandum of Understanding and any existing statute, the relevant legislation governs.
- (3) The Committee is established by Order-in-Council 1138/90 pursuant to clause 3(i) of the *Environmental Protection Act*, R.S.O. 1980, c. 141 and is empowered to provide advice to the Minister of Environment and Energy on standards for environmental contaminants and other related matters.
- (4) This Memorandum will become effective upon the signatures of the Chair and the Minister. It may be amended by the mutual consent of these parties.

- (5) This Memorandum shall be subject to review on the appointment of a new Minister, on the appointment of a new Chair, on the proclamation of any new legislation impacting on the role of the Committee or upon the request of either party.
- (6) The Committee may be terminated at the discretion of the Minister and is subject to the Sunset Review Procedures laid down in the Management Board Directives. The review is due on May 7, 1995.
- (7) All members of the Advisory Committee on Environmental Standards appointed by Order-in-Council shall abide by the conflict of interest principles and mandatory requirements set out in the Management Board Directives.

3. Functions of the Committee

- (1) The Advisory Committee on Environmental Standards is an advisory agency of the Crown under Schedule I of the Management Board Directives, created to provide advice and recommendations to the Minister of Environment and Energy on standards for environmental contaminants and related matters following consideration of the public input received and pertinent scientific, legal, economic and socio-cultural issues. It is the normal expectation that new and revised standards or policies on standards development will be referred to it for public consultation.
- (2) At the request of the Minister of Environment and Energy for advice and recommendations on a standard, the Advisory Committee on Environmental Standards will:
 - (a) review the Ministry's scientific and technical documentation on proposed standards, including the scope, assumptions, interpretation and methodology employed, and determine if public consultation is warranted, unless directed by the Minister to consult the public on the standard;
 - (b) consult with the public by soliciting written comments, using the following procedure:
 - the Committee will publish a "Notice of Intent" in the ONTARIO GAZETTE and, where appropriate, in major newspapers and notify affected and interested parties by mail. The notice will identify the contaminant(s) under consideration, the proposed standard(s), the duration of the comment period (normally 60 days after publication

of "Notice of Intent"), and invite the public to contact ACES for further information;

- the Committee will respond to public enquiries by providing both the relevant documentation and clear instructions on the type of public input required;
 - (c) if requested by the Minister, undertake further consultation with the public over and above the comment period. This could include:
 - workshops with invited participants;
 - informal meetings with interested groups;
 - public meetings;
 - (d) consult, as needed, Ministry staff and other experts to clarify specific issues or concerns;
 - (e) forward its recommendations and supporting rationale for a standard to the Minister of Environment and Energy in a timely manner, after consideration of the public input and other pertinent issues; and
 - (f) provide feedback to the public on its decision and on how public input was considered.
- (3) When directed by the Minister of Environment and Energy, the Committee will provide advice on:
- (a) policies, principles and procedures to be used in the development of environmental standards;
 - (b) priorities for research and data gathering related to the development of standards;
 - (c) priority substances for standard setting; and
 - (d) other related matters as required.
- (4) The Committee may bring matters or issues of concern related to standard setting to the attention of the Minister.

(5) The Committee is:

- (a) accountable to the Minister in the discharge of its responsibilities;
and
- (b) responsible to the Minister for the proper exercise of its discretion in carrying out its advisory function together with the financial and administrative responsibilities listed below in section 6.

4. Roles of the Minister and Ministry

Subject to the *Environmental Protection Act*, any Order-in-Council and this Memorandum, the Minister agrees to respect the independence that the Committee requires in order to carry out its advisory function. The Committee operates at arms-length to the Ministry of Environment and Energy and reports only to the Minister of Environment and Energy. Members of the Committee do not represent any special interests, but act as individuals.

5. Communications Between the Committee, the Ministry and the Public

- (1) The Minister or the Minister's designates shall advise the Committee of current Ministry and Government administrative policies, guidelines, or procedures and any significant changes in them that may have any bearing upon the activities of the Committee.
- (2) The Minister's designates are:
 - (a) the Deputy Minister, for any matter;
 - (b) the Assistant Deputy Minister, Environmental Sciences and Standards for environmental matters; and
 - (c) the Assistant Deputy Minister, Corporate Resources Division for financial and administrative matters.
- (3) The Deputy Minister or the Deputy Minister's designate shall:
 - (a) inform the Committee, on a semi-annual basis, of all new or revised standards that will be in development within the Ministry during the next year;
 - (b) inform the Committee, on a semi-annual basis, of all anticipated referrals to the Committee during the next year;

- (c) provide available scientific and technical information, including assumptions, interpretations and methodology, for each proposed standard. Data gaps will be noted by the Ministry. Additional supplementary material in the possession of the Ministry will be provided upon request; and
 - (d) at the request of the Committee, advise the Committee of the status of any standard-setting matter.
- (4) The Committee shall:
- (a) report to the public, decisions made and released by the Minister with respect to matters upon which the Committee has previously provided advice;
 - (b) maintain and make available to the public a list of all standards referred to ACES by the Minister which shall include the name of the substance, its description, and the date of the referral of the relevant standard;
 - (c) furnish an annual report to the Minister by July 31 of each year summarizing the Committee's activities, including its recommendations on standards and other issues; and
 - (d) make available to the Minister such other reports on its affairs and operations as the Minister may require.
- (5) Meetings of the Committee shall be open to the public according to the following guidelines:
- (a) meetings of the whole Committee to address standards will be public, unless confidential or proprietary material or recommendations to the Minister are under discussion;
 - (b) minutes of public Committee meetings shall be provided directly to the public by the Committee;
 - (c) all documents sent to the Committee by the Minister will be available to the public, unless designated otherwise by the Minister; and
 - (d) all documents resulting from public comment will be available to the public.

- (6) Submissions containing the Committee's recommendation on a specific standard will be publicly released by the Minister at the time of the Minister's announcement of the standard, although summaries of public submissions may be released earlier. Public statements by the Committee with respect to advice given by the Committee to the Minister on a specific standard are not appropriate prior to the Minister's announcement.

All other requests for information not covered under subsection 3(2)(b) on the public consultation process and under subsection 5(5) concerning meetings of the Committee must be handled in accordance with the *Freedom of Information and Protection of Privacy Act* process of the Ministry.

- (7) The Committee shall submit to the Minister in writing for timely review and approval all matters requiring approval of Cabinet or any of its Committees. The Minister shall advise the Committee of the Cabinet decision and provide a copy of any relevant Order-in-Council.
- (8) The Chair, designate or appropriate staff shall, at the request of the Minister or the Ministry, attend meetings or any appropriate government or legislative committees, except in the cases of apparent conflict of interest.

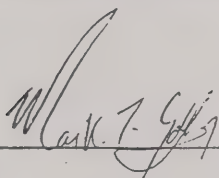
6. Financial and Administrative Arrangements

- (1) The Deputy Minister shall:
- (a) provide the approved funds to finance the Committee's operations;
 - (b) provide administrative support to the Committee.
- (2) The Committee shall be responsible for developing an annual budget to cover its financial requirements for each fiscal year as well as long range plans and forecasts which may be used as an aid in financial planning by the Ministry.
- (3) The Committee's budget shall be developed in accordance with the normal budgetary and estimates procedures of the Ministry of Environment and Energy.
- (4) The Deputy Minister shall advise the Committee of the date by which the proposed budget is required for consideration and approval by the Ministry and for preparation of the Ministry's Estimates, and the Committee shall provide the proposed budget by that date.

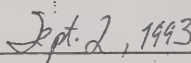
- (5) The expenditure of funds on behalf of the Committee shall be under the Committee's control subject to the requirements of subsections 7 to 10 below.
- (6) The Deputy Minister or the Deputy Minister's designate shall provide the Committee with access to advice and information respecting the proposed standards from professional and technical staff of the Ministry, as well as legal advice, to assist the Committee in carrying out its duties.
- (7) The Committee shall be subject to audit by the Ministry's Management Audit Branch and the Provincial Auditor.
- (8) The Committee shall follow normal expenditure and accounting procedures and Management Board Directives and Guidelines and all expenditures shall be processed through the Ministry's purchasing and financial systems.
- (9) The Committee shall follow management and administrative policies promulgated in the Ministry's Administrative Policy Manual.
- (10) If the Committee requires consultant or other services, the following shall be adhered to:
 - (a) the Committee will use the administrative and legal services of the Ministry in developing, tendering and administering contracts;
 - (b) all tendering will be consistent with the procedures contained within the Management Board Directives and the Administrative Policy Manual;
 - (c) the Committee will not seek to obtain services or information that duplicate those that are already available to it from the Ministry. All requests for creative services and consulting services must be forwarded to the Office of the Assistant Deputy Minister, Corporate Resources Division; and
 - (d) the Committee will not enter into contracts without the approval of the Ministry, and, where necessary, of Management Board.
- (11) French Language services and services relating to Freedom of Information and Protection of Individual Privacy required by the Committee, shall be obtained through the Corporate Resources Division of the Ministry.

- (12) The Deputy Minister may provide the Committee with operating guidelines or procedures for the administration of the Committee when necessary. These procedures may be reviewed periodically at the request of either the Ministry or the Committee.

For the Advisory Committee on Environmental Standards



Chair

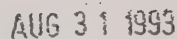


Date

For the Ministry of Environment and Energy



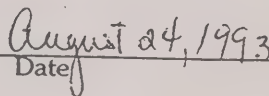
Deputy Minister



Date



Minister



Date

APPENDIX B

BIOGRAPHICAL NOTES FOR ACES MEMBERS

Chair - Dr. Mark Goldberg

Dr. Goldberg is a principal of GlobalTox International Consultants Inc., and Associate Graduate Faculty member at the University of Guelph, where he taught and did cancer-related research for 12 years. He is one of only 29 board certified toxicologists working in Canada. His areas of specialization are genetic toxicology, carcinogenesis, risk assessment and environmental site assessment. Dr. Goldberg has consulting experience with both public and private sector clients. Mark is a member of the International Joint Commission's Work Group on Ecosystem Health of the Science Advisory Board. He has served as the Chair of the Advisory Committee on Environmental Standards since 1990.

Vice-Chair - Dr. Beth Savan

Dr. Savan is Director of the Environmental Studies Program, Innis College, University of Toronto. She has been an active advisor to the Ontario Government serving as co-chair of the Fair Tax Commission's Working Group on the Environment and Taxation and as a member of the Commission on Planning and Development Reform's Urban Working Group and as a member of the Ontario Task Force on the Primary Prevention of Cancer which reports to the Minister of Health. Dr. Savan obtained her Ph.D. in insect ecology from the Imperial College of Science and Technology at the University of London, England, and has focused her research and publication activities on environmental assessment and planning, bias and self-deception in scientific research, and environmental education. She has authored two books and several award-winning radio series on these topics. She has served as the Vice-Chair of the Advisory Committee on Environmental Standards since 1990.

Member - Mr. Robert Boldt

Robert Boldt is a retired executive with Dow Chemical Canada Inc. and has had broad experience in chemical manufacturing, particularly in the areas of health and safety and environmental matters. He was involved with establishing the Responsible Care® program for the Canadian Chemical Producers Association. He is presently a consultant to the United Nations Environmental Program (UNEP), and a Senior Fellow of the World Environment Centre. Robert Boldt has served as a member of the Advisory Committee on Environmental Standards since 1990.

Member - Prof. Ian Brindle

Ian Brindle is a Professor of Chemistry at Brock University, St. Catharines. His research centres on the determination of chemicals of concern in the environment. In 1991, he was presented with the Ministry of the Environment's Excellence in Environmental Research Award for Analytical Methods Development. Professor Brindle has been a member of a number of public committees including the Niagara River Public Advisory Committee and the Niagara Region's Environment and Ecological Advisory Committee. He is a Fellow of the Royal Society of Chemistry and is on the review panel for Analytical Chemistry, Analyst, the Journal of Analytical Atomic Spectrometry and the Journal of Chromatography. Ian Brindle has served as a member of the Advisory Committee on Environmental Standards since 1990.

Member - Mr. Terry Burrell

Terry Burrell is an economist with many years experience in environmental and energy research and consulting with firms such as Victor and Burrell and its successor, VHB Research and Consulting. He has taught courses in environmental economics and policy at Trent University and the University of Toronto. He has been actively involved in environmental issues and is on the Board of Directors of the Canadian Environmental Association. He currently practices law in Toronto. Terry Burrell has been a member of the Advisory Committee on Environmental Standards since March 1992.

Member - Mr. Doug Cook

Doug Cook is a retired executive from Imperial Oil Limited. During his career, he has been involved in a variety of positions including engineering, distribution, technical service, sales and, laterally, the environmental, health and safety fields. He is currently President of Taurscale Consultants Limited, an environmental and occupational health and safety consulting firm. Over the years he has been extensively involved in industry associations, on the boards of several environmental research groups and a member of a number of Government advisory boards. Doug Cook has been a member of the Advisory Committee on Environmental Standards since 1990.

Member - Ms. Cindy O'Brien

Cindy O'Brien is currently a Occupational Hygienist with the City of Toronto. Since graduating from the University of Toronto's Masters of Health Science program (Occupational and Environmental Health), she has held the positions in Safety and Occupational Hygiene with General Electric Lighting Canada, the Ontario Ministry of Community and Social Services and the University of Toronto. Through membership in occupational hygiene associations, as well as education and work experience, she is familiar with the potential impact of industrial processes on the environment and existing environmental regulations. Cindy O'Brien has served as a member of the Advisory Committee on Environmental Standards since June 1993.

Member - Mrs. Sally Paterson

Sally Paterson is a research associate in the Department of Chemical Engineering and Applied Chemistry and the Institute for Environmental Studies at the University of Toronto. Her primary research area is the study of the environmental behaviour of organic contaminants, including their source, fate, effects and control and understanding and simulating this behaviour through the use of models. Sally Paterson has served as a member of the Advisory Committee of Environmental Standards since 1990.

Member - Dr. David Pengelly

David Pengelly has a joint appointment at McMaster University, Hamilton, Ontario as Associate Professor, Department of Medicine, and Associate Professor, Department of Engineering Physics. He is also an Associate Member of the Department of Electrical and Computer Engineering. David Pengelly has published work in clinical instrumentation for cardiological, respiratory, and neuromuscular research, in respiratory physiology, in boundary layer meteorology, in air pollution measurement, and in epidemiological studies of the health effects of air pollution. Ongoing studies include assessment of the effects of air pollution on community health, in children, adults, and patients with asthma, as well as studies of the magnetic fields associated with the activation of skeletal muscle in humans. He is currently Cochair of the Environmental Health Committee of the Canadian Lung Association and is also a member of the Multi-Stakeholder Dispersion Model Advisory Committee (MDMAC) of the Ontario Ministry of the Environment and Energy. David Pengelly has been a member of the Advisory Committee on Environmental Standards since 1990.

Member - Ms. Kimberly Perrotta

Kimberly Perrotta is an Occupational Hygienist who works for labour. For six years, she worked with the United Electrical Workers (UE) as the National Representative responsible for occupational health and safety, industrial disease compensation cases and environmental issues. Since then, she has worked as a consultant providing services to the Ontario Federation of Labour (OFL), the Confederation of Canadian Unions (CCU) and the Occupational Health Clinics for Ontario Workers (OHCOW). For three of the past four years, she has worked primarily for the Labour Caucus of the Joint Steering Committee for the Regulation of Toxic Substances where she was involved in the bi-partite development of a generic regulation for toxic substances in the workplace. Kimberly Perrotta has been a member of the Advisory Committee on Environmental Standards since 1993.

Member - Ms. Catherina Spoel

Catherina Spoel is an environmental and municipal lawyer in private practice with Miller Thomson, a Toronto law firm. She is Chair of the Canadian Bar Association - Ontario Law Branch Environmental Law Section and is a past president of the Canadian Environmental Law Association. Catherina Spoel has been a member of the Advisory Committee on Environmental Standards since 1990.

Member - Mr. Ralph Stanley

Ralph Stanley is currently a Senior Public Health Inspector, Peel Health Department. He is responsible for supervision of public health inspectors in assigned areas and provides leadership and technical advice on identification of public and environmental health hazards and delivery of programs and services in accordance with the Health Protection and Promotion Act and Part VIII of the Environmental Protection Act. He sits on a number of committees including representing the Region of Peel on the Metro Toronto Remedial Action Plan (RAP) and the Metro Toronto and Regional Conservation Authority Steering Committee for the Clean Up The Rural Beaches (CURB) program. He is past chair of the Environmental and Occupational Health Division with the Ontario Public Health Association and has been responsible for environmental networking and influencing public policy in a number of environmental health areas. He has had considerable experience in water quality issues. He is also a member of the Canadian Institute of Public Health Inspectors. Ralph Stanley has served on the Advisory Committee for Environmental Standards since 1990.

Member - Prof. Keith Winterhalder

Keith Winterhalder is Associate Professor of Biology at Laurentian University in Sudbury, where he teaches botany, plant ecology and soil biology. His research interests include the plant-soil and microorganism-soil relationships that exist on terrain that has been acidified and metal-contaminated by mining-related activities, and the evolution of metal-tolerance in plants. He has been involved in the revegetation of the metal-contaminated landscapes of Sudbury since 1969 and chairs the Regional Municipality of Sudbury's Vegetation Enhancement Technical Advisory Committee (VETAC). He is currently exploring methods of revegetation and acid mine drainage reduction on metalliferous, acid-generating tailings in the Timmins area. Keith Winterhalder has been a member of the Advisory Committee on Environmental Standards since 1990.

APPENDIX C
CORRESPONDENCE



135 St. Clair Avenue West
Suite 100
Toronto, Ontario
M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto (Ontario)
M4V-1P5

November 18, 1993

Dr. Peter Victor
Assistant Deputy Minister
Environmental Sciences and Standards Division
135 St. Clair, 14th Floor
Toronto, Ontario
M4V 1P5

Dear Dr. Victor,

This letter follows up on an issue related to the Environmental Bill of Rights which we discussed when you and Ivy Wile met with ACES in July. As you are aware, we previously submitted ACES's general comments on the proposed Environmental Bill of Rights in a letter to the Minister October 16, 1992, a copy of which is attached.

As you noted during our meeting, the Environmental Bill of Rights requires, at minimum, that the Ministry place notice on the Registry of proposed changes in standards, guidelines and policies that apply to standard setting (In what follows, I use the term "standards" as short-form for all of these.) You requested ACES to consider whether it therefore made sense for the Ministry to restrict itself to Registry notification for some proposed changes and not involve ACES in the public consultation.

You specifically asked whether this approach might not make sense for proposed standards that were relatively straightforward and non-contentious.

We have discussed this matter and concluded that Registry notice may be sufficient for some proposed changes to Ministry standards. We have also concluded that it would be preferable for ACES to be consulted prior to a decision by the Minister to adopt Registry-only notification.

Can the Registry Provide Adequate Notice?

Standards play a central role in environmental regulation. Unlike much of what is described as "instruments" in the Environmental Bill of Rights -- the category which is the focus for much of the Bill's notification provisions -- standards, though relatively few in number, are of broad application and impact and are infrequently revised.

Accordingly, proposed changes to standards normally require a wider and/or more intensive consultation than is likely to be initiated by a 30 day Registry notification.

However, not every proposed change to a standard requires the same breadth and depth of consultation. Some proposals may be judged to have little or no real environmental or social impact. Others may be perceived to have an impact, but a consensus may have emerged that the impact is acceptable and the proposed change appropriate. ACES thinks that the Registry may be, or may become, an efficient and effective vehicle for providing adequate notice for proposed changes which have one or both of these characteristics.

What Process Should be Used for Registry-only Notification?

If Registry-only notification can be suitable, as we believe it will be in some cases, the role of ACES in identifying the standards for which it is appropriate should be defined. We think that it would be worthwhile for the Ministry to consult ACES prior to making a decision to use Registry-only notification for any individual standard. We also think that ACES should be consulted in the development of any criteria used by the Ministry in making the decision to designate a group of standards as being appropriate for Registry-only notification — for example if the Ministry wishes to release a significant number of non-controversial standards.

ACES's experience in reviewing Ministry proposals and in conducting consultations has provided us with insight into what proposed changes are likely to be straightforward and non-controversial. This insight should prove valuable to the Minister in deciding whether to take a Registry-only approach to notification. Moreover, being consulted prior to the decision to use Registry-only notification will keep ACES in close contact with the Ministry's standard setting activities, thereby helping ACES to discharge its other consultation responsibilities effectively.

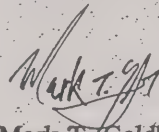
ACES appreciates the Ministry's desire to ensure prompt release of proposed changes once they are ready for the public. We do not think that consulting ACES prior to making a Registry-only decision need delay release. We assume that the Ministry will continue to request that ACES undertake at least an informal review of every proposed change in standards. Where the Ministry thinks that a change might fall into the Registry-only notification category, it could so inform ACES at the informal consultation stage. ACES would then include its opinion of the advisability of Registry-only notification in its informal consultation review.

In addition, public response during the 30 day notice period will provide a vital check on the decision to go the Registry-only route. Public comment during this period can help to identify those standards that merit enhanced consultation.

Finally, ACES believes that the Registry can become an important tool in all of the consultations which we undertake on behalf of the Minister. As we discussed with you and Ivy Wile in July, ACES is eager to identify ways in which we can "do more with less".

We think that the Registry may make it easier and less costly for us to contact an important portion of the public with whom we consult. We look forward to the Registry's implementation and to the opportunity of utilizing it in our ongoing work for the Minister.

Sincerely,

A handwritten signature in dark ink, appearing to read "Mark T. Goldberg", written over a horizontal line.

Mark T. Goldberg Ph.D. DABT
Chair
Advisory Committee on
Environmental Standards

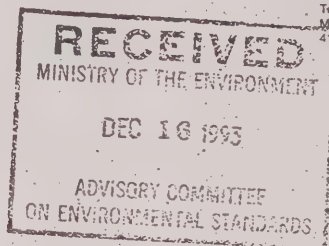
Attachment

cc: I. Wile



135 St. Clair Avenue West
Suite 100
Toronto, Ontario
M4V 1P5
416/323-4359

135, avenue St. Clair ouest
Bureau 100
Toronto (Ontario)
M4V 1P5
416/323-4359



42632

December 15, 1993

Dr. Mark Goldberg, Chair
Advisory Committee on Environmental Standards
Ministry of Environment and Energy
40 St. Clair Avenue West, 4th Floor
Toronto, Ontario
M4V 1M2

Dear Dr. Goldberg:

I wish to request that your Committee undertake a review and public consultation of the proposed interim drinking water objective for tritium. The attached report, "Rationale Document for the Development of an Interim Ontario Drinking Water Objective for Tritium" and supporting documentation provide the rationale for the revision of the current Ontario Drinking Water Objective (ODWO) for tritium.

Please initiate the public consultation as soon as possible and provide your recommendations to me within 120 days of commencement of the process.

Since there is a high degree of public interest in this matter, particularly in the Pickering-Ajax area, I would appreciate it if you would advise me of your proposed consultation plan and timetable for completion as soon as you can.

Sincerely,

C.J. (Bud) Wildman
Minister

Enclosure

Advisory
Committee on
Environmental
Standards
May 10, 1994

Comité
consultatif
des normes
environnementales

40 St. Clair Avenue West
Suite 401
Toronto ON M4V 1M2

40, avenue St. Clair ouest
Bureau 401
Toronto ON M4V 1M2

Honourable Bud Wildman
Minister
Ministry of the Environment and Energy
12th Floor
135 St. Clair Ave. West
Toronto, Ontario
M4V 1P5

Dear Mr. Wildman,

In response to your request of December 16, 1993, I am pleased to provide you with ACES's recommendation for a standard for tritium in drinking water. The Committee conducted its own internal review, consulted with the Standards Development Branch of the Ministry and then conducted a full scale public consultation of the documentation that you had provided.

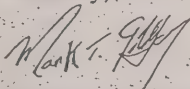
The public consultation was very valuable; public interest in this issue was widespread and resulted in new information being brought to the attention of ACES. In order to investigate this information, and to ensure a fair, balanced and accurate review, ACES sought out original sources and cites them in the attached report. Two particularly relevant documents are appended.

ACES recommends that the Ontario Drinking Water Objective for Tritium be set immediately at 100 Bq/L. ACES further recommends that, due to the fact that tritium is a human carcinogen and because of the many uncertainties in the risk assessment, the tolerable level of tritium in drinking water be reduced to 20 Bq/L in 5 years with the goal of further reduction as human contributions to tritium background levels decline. The five year schedule for the reduction acknowledges the need for technical and financial feasibility studies on the ODWO of 20 Bq/L. In addition, ACES recommends that this standard be applied as a health-based Maximum Acceptable Concentration so that when the drinking water standard is exceeded, an alternative water supply should be made available.

When you have made a decision on the recommendation, ACES will reply to all those who submitted their comments during the public consultation, sending them a copy of this report and informing them of your decision. There is intense public interest in your decision and our report, and so I hope that you will enable us to release the attached document in the near future.

If you have any questions please do not hesitate to call me. I look forward to your decision.

Sincerely,



Mark T. Goldberg Ph.D. DABT
Chair
Advisory Committee on Environmental Standards



Ontario

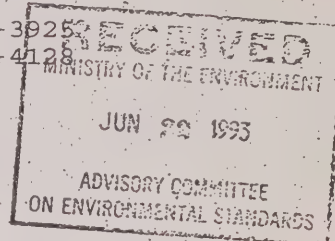
Ministry of the Environment and Energy
Ministère de l'Environnement et de l'Énergie

Water Resources Branch

135 St. Clair Avenue West
Suite 100
Toronto, Ontario
M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto (Ontario)
M4V 1P5

(416) 314-3925
FAX 314-4128



June 17, 1993.

MEMORANDUM

TO: Dr. M. Goldberg
Chair
Advisory Committee on Environmental Standards

FROM: Mr. G.A.V. Rees
Assistant Director

RE: REVIEW OF PROVINCIAL WATER QUALITY OBJECTIVES
FOR ALKYL-LEADS

I am pleased to submit to you, for your committee's informal review, the Provincial Water Quality Guidelines for Alkyl-leads. In addition to the development document there is an information package enclosed which summarizes the results of the peer review, contains a fact sheet, and has a copy of the critical papers, as you requested in previous reviews.

Please relay your comments and questions to Dr. D. Spry who is co-ordinating these guidelines for the Water Resources Branch.


G.A.V. Rees

encl:

DJS/lf

cc: I. Wile
W. Scheider
F. Fleischer
D. Persaud

5B060382.MEM

Ministry of
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and Energy

Ministère de
l'Environnement
et de l'Énergie

135 St. Clair Avenue West
Suite 100
Toronto ON M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto ON M4V 1P5

Standards Development Branch

(416) 323-5050

FAX 323-5166

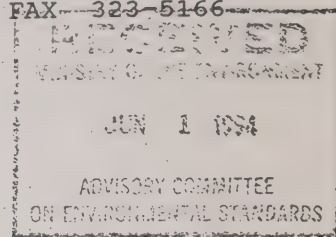
May 30, 1994

MEMORANDUM

TO: Mark T. Goldberg
Chair
Advisory Committee on Environmental Standards

FROM: W. Scheider
Manager
Environmental Standards Section

RE: Response to ACES Review of the Proposed Provincial Water
Quality Guidelines for Alkylleads



Thank you for your review of the above document addressed to Mr. G.A.V. Rees of the Water Resources Branch. As you know, the Standards Development Branch is now responsible for developing all MOEE environmental standards and we have assumed responsibility for the alkylleads document.

We have considered each of your comments (see attached) and revised the alkylleads criteria document where appropriate. I trust that you find the revised document (attached) to your satisfaction. It is my intention at this time to proceed towards publishing this document.

Again, thank you for your thorough review of these proposed Guidelines and I look forward to working with you in the future.



W.A. Scheider

encl

cc: R. McKenzie
C. Neville
D. Spry
P. Victor
G. Westlake
I. Wile



Minister
Ministre

Ministry of
Environment
and Energy

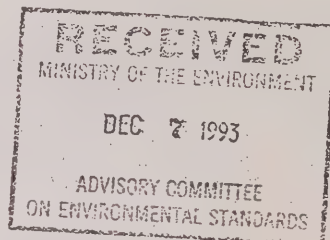
Ministère de
l'Environnement
et de l'Énergie

135 St. Clair Avenue West
Suite 100
Toronto ON M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto ON M4V 1P5

December 3, 1993

42574



Dr. Mark Goldberg
Chair
Advisory Committee on Environmental Standards
40 St. Clair Avenue West, 4th Floor
Toronto, Ontario
M4V 1M2

Dear Dr. Goldberg:

I wish to request that your committee undertake a review and public consultation of the recommendations regarding lead as set forth in the attached documents prepared by Ministry staff. The proposed health-based standards for lead in soils, ambient air and drinking water were developed using an approach which considers the multimedia nature of this important environmental contaminant.

The control of lead exposure through environmental standards, together with functions such as public education, is important as one of the Ministry's multimedia environmental standards initiatives. I anticipate a high degree of public interest in this matter.

Please advise me of your proposed consultation plan and anticipated completion date for your report as soon as possible.

I request that the consultation period be 150 days and that the process begin as soon as feasible. I would appreciate it if you would advise me of your timetable for completion of the consultation process on this matter as soon as you have determined it.

Yours sincerely,

C.J. (Bud) Wildman
Minister
Enclosure(s)



Advisory
Committee on
Environmental
Standards

June 17, 1994

Comité
consultatif
des normes
environnementales

40 St. Clair Avenue West
Suite 401
Toronto ON M4V 1M2

40, avenue St. Clair ouest
Bureau 401
Toronto ON M4V 1M2

Hon. C.J. (Bud) Wildman
Minister of Environment and Energy
135 St. Clair Ave. West
Toronto, Ontario
M4V 1P5

Dear Mr. Wildman:

In response to your request of December 3, 1993, I am pleased to provide you with ACES's recommendations on Soil, Drinking Water and Air Quality Criteria for Lead. The Committee conducted its own internal review on the Ministry's documents, consulted with the Standards Development Branch and then undertook a full scale public consultation on the documentation that you had provided.

ACES was generally very impressed with the overall quality of the documentation given that this was the Ministry's first multimedia assessment document and such assessments are inherently complex. The cooperation that ACES received from Ministry staff, particularly, Stuart Bailey, Scott Fleming and Jim Smith of the Standards Development Branch, was greatly appreciated during this review.

ACES supports the Ministry's proposed guidelines for residential/parkland soils of 200 $\mu\text{g/g}$ and for industrial/commercial soils of 1000 $\mu\text{g/g}$. Due to the concerns which were raised by the public regarding background levels of lead in agricultural soils and the uncertainty surrounding lead uptake by food crops, ACES recommends that an interim agricultural soil level of 200 $\mu\text{g/g}$ be set (consistent with the proposed guideline for residential/parkland soils) until further data can be collected.

ACES supports the Ministry's proposed Ontario Drinking Water Objective of 10 $\mu\text{g/L}$, but recommends a goal be established of moving towards the health-based criterion of 5 $\mu\text{g/L}$.

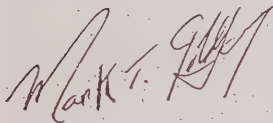
ACES recommends that the MOEE adopt an interim Ambient Air Quality Criterion (30 day arithmetic average) of 0.7 $\mu\text{g/m}^3$ for a maximum of 3 years and that a goal of meeting the health-based criterion of 0.05 $\mu\text{g/m}^3$ be established.

Although many other important recommendations are contained in our report, I would like to stress that ACES strongly endorses all public education activities proposed by the MOEE directed at reducing exposure to lead.

I look forward to briefing you on this report on June 29, 1994. When you have made a decision on these recommendations, ACES will reply to all those who submitted their comments during the public consultation, sending them a copy of this report and informing them of your decision.

If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in dark ink, appearing to read "Mark T. Goldberg". The signature is stylized with a large, looped "M" and a cursive "G".

Mark T. Goldberg Ph.D. DABT

Chair

Advisory Committee on Environmental Standards



Ontario

News Release Communiqué

Ministry of
Environment
and Energy

Ministère de
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et de l'Énergie

July 21, 1994

Stricter lead limits recommended for Ontario environment

Environment and Energy Minister Bud Wildman has received a report recommending stricter limits on lead in the environment.

These recommendations were developed in response to a request from the Minister to the Advisory Committee on Environmental Standards (ACES) to consult the public on revised multimedia standards for lead that were recently proposed by the Ministry. Standards that were recommended for implementation and accepted by the Minister include:

- In air -- a 30-day ambient air quality criterion for lead of 0.7 micrograms per cubic metre of air ($\mu\text{g}/\text{m}^3$);
- In soil -- contaminated site cleanup guidelines of:
 - 1000 parts per million (ppm) for industrial soil, unchanged from existing requirements
 - 200 ppm for residential, parkland and agricultural soil, revised from the existing 500 ppm guideline;
- In water -- no change for the 10 micrograms per litre ($\mu\text{g}/\text{L}$) Ontario Drinking Water Objective.
- Continuing public education to reduce human exposure to lead in the environment.

Mr. Wildman indicated that other recommendations aimed at reducing standards for air, drinking water and soil further beyond these new limits, represent goals for the Ministry which may not be achievable in the timeframes specified in the report and will require further study.

"Our Ministry will continue to advocate and support public education measures which promote the reduction of exposures to lead," Mr. Wildman said. "We will consult agencies in the provincial and federal government responsible for health, consumer protection, labor, agriculture and other interested parties to develop effective education programs."

"I would like to thank ACES for undertaking public consultation on this technically challenging topic," he added. "I am now moving forward with necessary regulatory and policy revisions to implement these standards."

For copies of the report, *"Soil, Drinking Water and Air Quality Criteria for Lead: Recommendations to the Minister of Environment and Energy"* please contact the Advisory Committee on Environmental Standards, 40 St. Clair Ave. W., 4th Floor, Toronto, Ontario, M4V 1M2. Tel: (416) 314-9265.

- 30 -

* Version française disponible

FOR FURTHER INFORMATION:

Stuart Bailey (416) 323-5005

Scott Fleming (416) 323-5003

Standards Development Branch

Gerry Merchant (416) 323-4333

Public Affairs and Communications Branch

Shawn Murray (416) 323-4443

Minister's Office

Ministry of
Environment
and Energy

Ministère de
l'Environnement
et de l'Énergie

135 St. Clair Avenue West
Suite 100
Toronto ON M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto ON M4V 1P5

Water Resources Branch

(416) 314-3925
FAX 314-4128

October 1, 1993

MEMORANDUM

TO: Dr. M. Goldberg
Chair
Advisory Committee on Environmental Standards

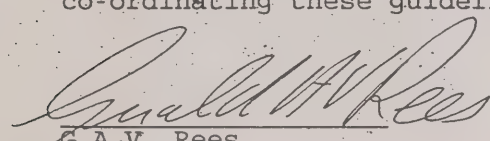
FROM: Mr. G.A.V. Rees
Assistant Director

RE: REVIEW OF PROVINCIAL WATER QUALITY GUIDELINE FOR
THALLIUM



I am pleased to submit to you, for your committee's informal review, the Provincial Water Quality Guideline for Thallium. In addition to the development document there is an information package enclosed which summarizes the results of the peer review, contains a fact sheet, and has a copy of the critical paper, as you requested in previous reviews.

Please relay your comments and questions to Dr. D. Spry who is co-ordinating these guidelines for the Water Resources Branch.


G.A.V. Rees

encl: information package and development document

DJS/ds

cc: D. Persaud
D. Spry

5B100553.MEM

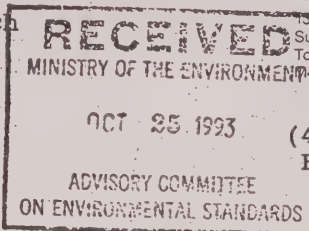


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Water Resources Branch



135 St. Clair Avenue West
Suite 100
Toronto, Ontario
M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto (Ontario)
M4V 1P5

(416) 314-3925
FAX 314-4128

October 13, 1993.

MEMORANDUM

TO: Dr. M. Goldberg
Chair
Advisory Committee on Environmental Standards

FROM: Mr. G.A.V. Rees
Assistant Director

RE: REVIEW OF PROVINCIAL WATER QUALITY GUIDELINES
FOR ETHYLBENZENE AND TOLUENE

I am pleased to submit to you, for your committee's informal review, the Provincial Water Quality Guideline documents for ethylbenzene and toluene.

Please forward your comments and questions to Roy Angelow who is co-ordinating these guidelines for the Water Resources Branch.


G.A.V. Rees

encl:

cc: I. Wile
W. Scheider
F. Fleischer
D. Persaud

5B100561.MEM

Ministry of
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and Energy

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l'Environnement
et de l'Énergie

135 St. Clair Avenue West
Suite 100
Toronto ON M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto ON M4V 1P5

Standards Development Branch

(416) 323-5050
FAX 323-5060

August 2, 1994

MEMORANDUM

TO: J. Douglas Cook
Chair, Ethylbenzene/Toluene Workgroup
Advisory Committee on Environmental Standards

FROM: W. Scheider
Manager
Environmental Standards Section

RE: Response to ACES Review of the Proposed PWQGs for
Ethylbenzene and Toluene

Thank you for your review comments on the above documents. We have considered each of your comments (see attached) and revised the ethylbenzene and toluene criteria documents where appropriate. The documents will soon be placed on the EBR registry for a 30-day consultation period.

Thank you again for taking the time to review these documents.


for W. A. Scheider

Attach.

cc: R. Angelow
M. Goldberg
I. Wile

COMMENTS ON ACES REVIEW OF TOLUENE AND ETHYLBENZENE

General Comments

ACES has reiterated several policy concerns which were raised previously during the review of other PWQO documents (e.g., Chlorinated Ethanes and Ethylenes, Alkylleads). Some of these issues impact on Ministry wide policies and are outside the ability of the Environmental Standards Section or the Standards Development Branch to address.

1) PWQO Process:

The PWQO/G process is fully described in the 1992 MOEE report "Ontario's Water Quality Development Process" including the justification of the calibration factors.

At the present time, the Standards Development Branch does not undertake a risk management assessment as part of PWQO/G development. Risk management is done on a site-specific basis as indicated in the 1992 PWQO process document and in the Preface of each document.

The Ministry has not undertaken the development of multi-media scientific criteria documents for toluene and ethylbenzene at this time. The scope of these documents was limited to the development of water quality guidelines for the protection of aquatic life. As discussed in the reports, water quality guidelines for the protection of human health through recreational uses were not recommended at this time.

The exposure of humans to toluene or ethylbenzene from Ontario surface waters is likely to be insignificant based on available monitoring and scientific information. In addition, there are Ontario Ambient Air Quality Criteria and Drinking Water Objectives available which would be applicable to any site-specific risk management activities.

2) Rationale for developing standards:

Rationale for setting PWQGs for ethylbenzene and toluene was added to the documents.

3) Overview of documents:

We have revised and expanded the executive summary. We do not agree that it is necessary to append to the documents the actual critical scientific papers used to derive the PWQGs.

Specific comments for toluene

p. iii. Agreed.

p. iv. Agreed.

p. 1. We are comfortable with citing peer reviewed databases like IRIS, for certain types of information and as a source of further information for the reader.

The oral reference dose is based on oral exposure studies with mammals.

Additional CEPA data was added as suggested.

p. 5. Please note detection limits can vary depending on the analytical methodology used by the researchers. Moreover, it is useful to report the detection limit of a study particularly when the findings were non-detectable.

Agreed that CDWG is 0.024 mg/L.

p. 11. Agreed.

p. 12. We do not feel it is necessary to further rationalize the results of the Black et al. (1982) study. Clearly, the report indicates that trout exhibited the lowest observed adverse effect level. Also, it is worth noting, this study provided the critical data used to assess the ecological risks of toluene under CEPA (EC and HWC 1992).

p. 15. Research needs primarily pertain to identifying studies needed to upgrade the PWQG to a PWQO or strengthen the criteria.

The PWQG is significantly lower than the CCREM guideline, in part, because of the different processes used to derive guidelines by Ontario and CCREM. The toluene guideline was set as per the latest guideline setting process (MOEE 1992). We do not agree that a discussion of the difference should be included in the document.

Specific comments for ethylbenzene

p. iii. agreed.

p. 5. see comment above (p5).

p. 8. Please note that "EC50 (inhibition)" and "IC50" are interchangeable.



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et de l'Énergie

135 St. Clair Avenue West
Suite 100
Toronto ON M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto ON M4V 1P5

May 10, 1994

MEMORANDUM

To: Dr. Mark Goldberg, Chair
Advisory Committee on Environmental Standards

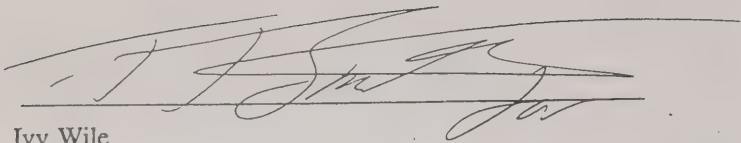
From: Ivy Wile, Director
Standards Development Branch

Re: ACES Preliminary Committee Review of Arsenic Multi-media Standards
Development Documents

Further to the telephone conversation between B. Thorpe of SDB and yourself on May 4, we are pleased to provide the following arsenic standards development documents for preliminary review:

1. Assessment of the Toxicology, Human Exposure, and Health Risks of Inorganic Arsenic
(contact: Dr. Richard Aucoin, 323-5134)
2. Terrestrial Effects Assessment of Arsenic and its Compounds
(contact: Murray Dixon, 905-456-2504ex330)
3. Scientific Criteria Document for the Development of a Provincial Water Quality Objective for Arsenic
(contact: Tim Fletcher, 323-5010)

Please note that the PWQO document is at this time also being sent out for an external peer review. Ideally, we would appreciate receiving your review comments by July 1st, but recognize that due to your current workload, a preliminary review of these documents may take longer. We will however, be continuing with our schedule to finalize these draft reports and complete the risk management document. A committee has been struck to undertake the risk management component and is expected to complete its task this September. We can discuss further the timing and review of arsenic documents at our upcoming meeting on May 19.

A handwritten signature in dark ink, appearing to read 'Ivy Wile', is written over a horizontal line.

Ivy Wile

cc. Dr. P. Victor
W. Schieder
B. Thorpe
R. Pearson

c:\sp_proj\richardarsenic\docs



RECEIVED
MINISTRY OF THE ENVIRONMENT

MAY 17 1994

ADVISORY COMMITTEE

ON ENVIRONMENTAL STANDARDS

135, avenue St. Clair ouest
Bureau 100
Toronto ON M4V 1P5

135 St. Clair Avenue West
Suite 100
Toronto ON M4V 1P5

44845

Minister
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May 16, 1994

Dr. Mark Goldberg, Chair
Advisory Committee on Environmental Standards
Ministry of Environment and Energy
40 St. Clair Avenue West, 4th Floor
Toronto, Ontario
M4V 1M2

Dear Dr. Goldberg:

I wish to request that your Committee undertake a review and public consultation of the proposed Decommissioning Guideline and supporting rationale documents. These documents will be provided to you by mid-May. The Guideline includes criteria for 117 chemical contaminants which were adopted from the State of Massachusetts with modifications to incorporate Ontario conditions.

Please initiate the public consultation as soon as you receive the documentation and provide your recommendations to me within 150 days of when you receive the documents. One aspect I am interested in is the views of smaller communities on how their development might be affected by the proposed guidelines.

Since there is a high degree of public interest in this matter I would appreciate it if you would advise me of your proposed consultation plan and timetable for completion of the various tasks as soon as you can.

Sincerely,

Bud Wildman

C.J. (Bud) Wildman
Minister

ACES Members

Mark Goldberg
Chair of ACES
GlobalTox International
Consultants Inc.
Guelph

Beth Savan
Vice Chair of ACES
Environmental Research and
Education
University of Toronto
Toronto

Robert Boldt
Occupational Health and
Environment
Sarnia

Ian Brindle
Analytical Chemistry
Brock University
St. Catharines

Terry Burrell
Environmental Economics
and Law
Toronto

Doug Cook
Occupational Health and
Environment
Taurscale Consultants Ltd.
Bridgenorth

Cindy O'Brien
Occupational Hygiene
City of Toronto
Toronto

Sally Paterson
Environmental Chemodynamics
University of Toronto
Toronto

David Pengelly
Air Pollution Epidemiology
McMaster University
Hamilton

Kim Perrotta
Occupational Health
& Safety
Labour Consultant
Toronto

Catherina Spoel
Environmental Law
Miller Thomson
Toronto

Ralph Stanley
Public Health Protection
Peel Regional Health
Department
Brampton

Keith Winterhalder
Plant and Soil Ecology
Laurentian University
Sudbury

ACES Staff

Dianne Corrigan
Scientific and Technical
Coordinator (Acting)

Carol Bennett
Technical Advisor

Kathy Paidock
Administrative Assistant

Carole Brown
Receptionist



From left to right: Eva Kennedy, David Pengelly, Ralph Stanley, Cindy O'Brien, Robert Boldt, Kimberly Perrotta (seated), Beth Savan, Mark Goldberg, Cathy Spoel (seated), Ian Brindle, Dianne Corrigan, Carol Bennett, Doug Cook, Carole Brown, Kathy Paidock. Members not in picture: Terry Burrell, Sally Paterson and Keith Winterhalder.



Ontario